# EDITORIAL ARTICLES.

## ANEURISMAL TUMORS OF THE TEMPORAL REGION.[1]

Five varieties are described as affecting the temporal region. 1st. False primitive aneurisms, or bloody pulsatile swellings. 2d. Aneurisms of the superficial temporal artery. 3d. Aneurisms of the deep temporal. 4th. Perforating aneurisms of the middle meningeal. 5th. Arterio-venous aneurisms.

I. *Bloody Pulsatile Swellings.* Great as is the frequency of contusions and of bloody swellings of the cranium, pulsations in these tumors are just as rare; but P. Forestus and J. L. Petit have recorded cases in which serious errors of diagnosis have been made in such circumstances.

In contusions, the bones of the cranium, by reason of their convexity and the resistance which they oppose to the external force, play the part of a sharp instrument, cutting the tissues from the deeper to the more superficial structures. The arteries are sometimes divided, and give rise to bloody subcutaneous extravasations, veritable false primitive aneurisms, recognized in the early stages by pulsations. If these pulsations rarely exist in such tumors, this arises partly from the tenuity of the broken vessels, and partly from the difficulty of infiltration of the scalp—difficulties which result in the increase of the blood pressure at the spot, and the rapid obliteration of the vessels.

This is not so, however, in the temporal region, where larger arteries and a superficial fascia are met. The extravasation there is considerable, and the ruptured artery is less easily obliterated. Most frequently this obliteration takes place, and the pulsations slowly disappear—the tumor diminishes in volume, becomes solid, and is absorbed. At other times the obliteration of the vessels is provoked by the inflammation of the tumor. Sometimes the pulsations persist, and localizing themselves upon one point, the extravasation disappears; but there remains upon the course of the artery a sacciform aneurism of traumatic origin. A good many temporal aneurisms have this origin.

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[1] *DeSanti, Archives Générales de Médicine.* 1884, Tom. II.; 1885, Tom. I.

II. *Aneurisms of the Superficial Temporal Artery.* It is difficult to pronounce upon the frequency of aneurisms of the temporal artery and its branches. If some authors, such as Scarpa, Lisfranc, and Desruelles, have observed several examples, the greater part of classical treatises content themselves with mentioning their existence only. This arises from the fact that no one has called attention to these aneurisms, and because of the favorable prognosis. surgeons who have observed them, have very rarely published their cases. In reality, these aneurisms are sufficiently common; and the author has collected 40 records.

These aneurisms, as are those of the small arteries generally, are ordinarily traumatic—always so, according to Heineke (*Deutsche Chirurgie*, Lief. 31. *Die Chirurgischen Krankheiten des Kopfes*, Stuttgard, 1882). They are most usually observed in men (18 times out of 27), and in young subjects (from 7 to 44 years). Their traumatic origin has caused them to be considered by the school of Scarpa as not being true aneurisms, and this may account for the little attention that has been given to them.

When the aneurism is the result of a wound, the tumor is ordinarily produced by the mechanism of the false consecutive aneurism—that is to say, after the cicatrization of the arterial wound. When, on the contrary, it follows a contusion, it forms habitually a false primitive aneurism. It presents a small indolent mass, circumscribed, regularly circular or elliptical, situated upon the course of the vessel, with visible pulsations, synchronous with the pulse, and presenting at times a small cicatrix at its most prominent point. The skin is healthy; sometimes adhering to the summit of the tumor; never œdematous or hypertrophied.

A special characteristic is that they were almost always placed at the bifurcation of the artery, or at a secondary bifurcation; and that it is very often necessary to tie the secondary branches, as well as the primary. These tumors remain stationary for a long time, and may be cured spontaneously, or by pressure.

Many errors have been made in diagnosis. In Frestel's case the symptoms were those of a cyst lying over an artery. Marsh (*Lancet*, 1879, vol. II., p. 838) mentions a case in which there were no pulsations. The tumor was regarded as a sebaceous cyst, and was opened as such.

### TREATMENT.

DESTRUCTION OF THE SAC. This has been attempted with equal success by incision, extirpation, cauterization. 1st. *Incision* (method of Antyllus) has been practiced by D. Monro, A. Cooper, Gasté, Malagodi, Schuh, Hall, Bryant, and Erichsen. All recovered. 2d. *Extirpation* (method of Purmann), practiced by Ballingall, Frestel, and Després. All recovered. The author agrees with Heineke that, with antiseptic dressings, this is the best treatment for superficial aneurisms of the cranium. 3d. *Cauterization*—Murat, according to Bégin (*Dictionnaire de Méd. et de Chir. pratiques*, 1879, article Aneurisms), cured a case of this kind, and perhaps used the actual cautery. The report does not appear to have been published. In two cases, Girouard (Chartres), and Fontaquères (Toulouse), used Canquoin's paste.

IMMEDIATE COAGULATION OF THE BLOOD IN THE TUMOR. This has been applied in three forms: 1st. Twisted sutures. 2d. Galvano-puncture. 3d. Coagulating injections.

1. *Twisted Suture*, which Rizzoli has attempted to popularize, had already been employed by Malgaigne, in 1846. Malgodi had, indeed, tried it anteriorly to that date, but it was at the end of an operation by the old method, to prevent secondary hæmorrhage, in which it did not succeed. He concluded that it was not a bad procedure.

2. *Galvano-Puncture*, suggested by Guérard and Pravaz, succeeded with Petrequin, in 1845, and was the first application. It is strange that it has not been more frequently used.

3. *Coagulating Injections*, proposed by Monteggia for the treatment of aneurisms, was first applied in the cases under discussion by Pavesi, in 1854 (*Gaz. Med., Lombardia*, 1854). He injected fourteen drops of a solution of acetate of iron. The tumor was solid in 10 minutes, and from that moment began to decrease. The method has been tried many times in these cases of temporal aneurisms, and has never produced any accidents.

METHOD OF COAGULATION OF THE BLOOD IN THE TUMOR BY ACTION UPON THE WALLS OF THE SAC. This method comprises two orders of procedure, one immediate—that is to say, acting immediately upon the wall of the sac by immediate compression; the other, mediate—that is to say, acting upon the sac only through the soft parts and the integuments, as in refrigeration and mediate compression.

*Immediate or Sub-Cutaneous Compression* is applicable to very small aneurisms. Fleming passed, as deeply as possible, under the tumor a curved needle, armed with carbolized silk, and brought it out half an inch from the point of entry. The ends were knotted and tied to an India rubber tube. The pulsations became imperceptible in two hours, and the next day the tumor was solid. The claimed success of *refrigeration* is to be received with caution.

*Mediate Compression* has given the greatest and the most authentic success. The pad placed upon the tumor should be soft, such as amadou. Under this treatment, the tumor reduces slowly, and after some days ceases to beat.

INDIRECT METHODS. 1st. *Ligature of the Temporal.* Success has not answered the expectations, owing to the anastomotic branches on the opposite side.

2d. *Ligature of the Common Carotid.* A proceeding which is too grave, and is not always successful.

III. AND IV. *Deep Aneurisms of the Temporal Region.* Under this title must be placed two kinds of tumors—aneurisms of the deep temporal, and perforating aneurisms of the middle meningeal artery. No proof of the existence of these tumors has been produced up to the present, and the minute researches made by the author lead him to believe that their existence has only been admitted upon the faith of erroneous observations.

*Aneurisms of the Deep Temporal.* Orioli is the first to refer to this form (*Bulletino delle Scienze Med.*, di Bologna, 1834, *et Gaz. Médicale*, 1834, p. 410). He erroneously diagnosed an aneurism, but on cutting through the temporal muscle, discovered a fungous tumor of the dura mater, which had perforated the skull. Dupuytren, Vidal de Cassis, and Velpeau refer to a case which is evidently the same. Velpeau also alludes to a similar case, in his own practice. These negative or ambiguous observations have served to create a legend of aneurisms of the deep temporal, but there is no proof.

*Aneurism of the Middle Meningeal.* These aneurism are more frequent and more authentic. Nine cases are reported; but here, again, one has evidently been three times placed on record and referred to different surgeons. A careful consideration of all the cases leads the author to believe that the existence of perforating aneurisms of the middle meningeal ought to be, if not denied, at least doubted, until there are new observations showing their reality from *post-mortem* examination.

V. *Arterio-Venous Aneurisms of the Temporal Region.* Eleven reliable cases have been placed on record. They are always traumatic, and in their production, arteriotomy holds first rank. The first sign is the tumor; it appears shortly after the wound, accompanied by a peculiar thrill, of which the patient is conscious, and synchronous with the pulse. There are seen under the skin dilated and hypertrophied pulsating veins. Their volume may become enormous, and sometimes mondiform dilatations are formed. The sac and the venous dilatations increase very rapidly in the first month, but afterwards progress is extremely slow, or even nothing. Czerny's patient lived 25 years without any increase after the first year.

These tumors are most frequently confounded with cirsoid aneurisms. Bérard attaches great importance to the traumatic origin of the latter; while cirsoid aneurism is almost always spontaneous and congenital. That is true in the majority of cases, but the origin of arterial varices is frequently traumatic. There is, in reality, only one characteristic sign of arterio-venous aneurism—that is, the detection of a limited point, the compression of which causes all movements to cease (Czerny); but this is difficult, and frequently impossible to discover.

As to treatment, the author recommends ligature of the artery above and below the sac. If this cannot be done, then either to tie all the veins and arteries which belong to the tumor, or to extirpate it, tying all the bleeding vessels with catgut, and rigorously observing antiseptic precautions.

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